WHAT IS CLAIMED IS:

1. A material having a layer, the layer comprising a plurality of self-assembled structures comprising compositions, wherein the structures are localized in separate islands covering a portion of the layer in an integrated assembly.

2. The material of claim 1 wherein the compositions comprise organic compounds.

3. The material of claim 1 wherein the compositions comprise inorganic particles.

4. The material of claim 3 wherein the inorganic particles have an average secondary particle diameter from about 2 nm to about 200 nm.

5. The material of claim 3 wherein the inorganic particles have an average secondary particle diameter less than about 100 nm and the primary particles generally having a distribution in sizes such that at least about 95 percent, of the primary particles have a diameter greater than about 40 percent of the average diameter and less than about 160 percent of the average diameter.

6. The material of claim 3 wherein the particles include effectively no primary particles with a diameter greater than about a factor of four times the average particle size.

7. The material of claim 3 wherein the particles have an average secondary particle diameter less than about 100 nm, the particles being located within pores of a material in the layer.

8. The material of claim 3 wherein the particles comprise a metal oxide.

9. The material of claim 1 wherein the compositions are attached to the surface with a linker molecule.

10. The material of claim 9 wherein the linker molecule comprises an organic compound with two functional groups.

11. The material of claim 1 wherein the particles are fluorescent particles.

12. The material of claim 1 wherein the composition comprises a metal.

13. The material of claim 1 wherein the composition comprises a biological macromolecule.

14. The material of claim 1 wherein the composition has a high index of refraction.

15. A material comprising a self-assembled formation of inorganic particles, the inorganic particles having an average primary particle diameter less than about 100 nm and the particles comprising a composition selected from the group consisting of metal/silicon oxides, metal/silicon carbides, metal/silicon nitrides and elemental metal.

16. The material of claim 15 wherein the primary particles have a distribution in sizes such that at least about 95 percent, of the primary particles have a diameter greater than about 40 percent of the average diameter and less than about 160 percent of the average diameter.

17. A method for generating devices on a layer within specified boundaries, the method comprising:

localizing the boundaries of the devices; and

initiating a self-assembly process to deposit a plurality of structures comprising compositions within the boundaries.

18. The method of claim 17 wherein the compositions comprise particles having an average primary particle diameter less than about 100 nm.

19. The method of claim 17 wherein the localization is performed prior to the self-assembly process.

20. The method of claim 17 wherein the self-assembly process is performed prior to the localization process.

21. The method of claim 17 wherein the localization is performed using a mask.

22. The method of claim 17 wherein the localization is performed using a focused beam.

23. The method of claim 17 wherein the localization is performed by activating the surface within the boundaries such that the self-assembly process is effective within the boundaries.

24. The method of claim 23 wherein the activation comprises the deposition of an appropriate substrate for the self-assembly process.

25. The method of claim 23 wherein the activation comprises the removal of inhibitory material from within the boundaries.

26. The method of claim 17 wherein the localization is performed by deactivating the surface outside of the boundaries.

27. The method of claim 26 wherein the deactivation is performed by the removal of material that directs the self-assembly process.

28. The method of claim 26 wherein the deactivation is performed by the deposition of a material that inhibits the self-assembly process.

29. The method of claim 17 further comprising integrating the plurality of devices.

30. An article comprising a plurality of integrated devices wherein at least one device comprises a self-assembled array of compositions.

31. The article of claim 30 wherein the device is a field emission device, a field effect transistor.

32. The article of claim 30 wherein the device is a battery.

33. The article of claim 30 wherein the device is an optical interconnect.

34. The article of claim 30 wherein the device comprises inorganic particles having an average diameter from about 2 nm to about 100 nm.

35. The article of claim 34 wherein the particles include effectively no particles with a diameter greater than about a factor of four times the average particle size.

36. The article of claim 34 wherein the particles comprise a metal oxide.

37. The article of claim 34 wherein the particles comprise a metal.

38. The article of claim 30 wherein the integrated devices are located in a plurality of interconnected layers.

39. The article of claim 30 wherein the device has a minimum diameter less than about 1 micron.

40. The article of claim 30 wherein the device has a minimum diameter less than about 0.13 microns.